August 1, 2017

From: Ron Wilde, City Administrator

Subject: Wastewater Treatment Plant Repair

BACKGROUND

The City of Jonestown operates a small wastewater treatment plant and drip irrigation fields that serve certain areas in the Hollows subdivision. The system was acquired during the bankruptcy proceedings of Centex Properties, the former owner several years ago. The acquisition allowed the City to step in and continue to provide wastewater service to the area after the developer left the picture.

PROBLEM

About three years ago we became aware of serious corrosion occurring in the aeration basins of the waste water treatment plant. It was beginning to threaten the integrity of the plant. The corrosion, in the opinion of our Engineer, David Allen, P.E. (Allen Engineering Group, Inc.), was due to defective coatings in the basins.

Our first approach was to see if the company that installed the plant would cooperate and help defray the cost of fixing the problem. The plant was a little over ten years old, but unfortunately beyond its warranty period. We hoped that the company might still be willing to acknowledge the problem and help us. However, they chose not to cooperate.

ALTERNATIVES EXAMINED

Two years ago the City authorized David Allen to do a preliminary engineering study and estimate of probable costs to examine the City's alternatives with regard to the future of the City's wastewater plant. Three potential options were explored:

Alternative 1. Low Pressure sewer system re-direction to the Lago Vista treatment plant.
Alternative 2. Installation of a lift station at the WWTP site and force main to the OBR lift Station and then to the Lago plant.
Alternative 3. Rehabilitation or replacement of the existing facilities.

After further analysis Alternative 1 proved to not be feasible based upon the length of pipe, number of connections, elevations to overcome, etc.

The preliminary cost for alternative two was $735,000. However, we would also need to pay Lago Vista connection fee costs of $2,100 per LUE. There were 96 LUE's attached to the plant at that time. The cost would have equated to $201,600. So the total cost of alternative two would have been $936,000.

At that point it appeared that alterative three had the most potential. We asked David Allen to proceed with further examination of this alternative.

Alternative three was subsequently broken down into three sub alternatives; 3a, 3b, and 3c.

- 3a included taking down the existing plant, inspecting it, and making necessary repairs.
- 3b included removing the existing plant and replacing it with a new package plant.
- 3c included using the digester and clarifier of the existing plant and installing two new, fiberglass aeration basins.

Alternative 3a proved to be not worth pursuing because of the unknowns that would not become clear until operations had ceased and the tank removed from service and inspected. The estimated cost for 3b was $650,000. Alternative 3c had the lowest capital cost with a preliminary estimate of $200,000.

SELECTION OF ALTERNATIVE

The City had approximately $270,000 in reserve funds for the WWTP. This made Alterative 3c the best option given the amount of money the City had on hand. At this point, David Allen was authorized to proceed with alternative 3c. David prepared engineering plans that were subsequently approved by our regulatory agency TCEQ (Texas Commission on Environmental Quality).

David then proposed additional ideas to save the City even more money. He proposed that we purchase the components directly, get a demolition contractor to take down the current tank, haul off the demolition remains ourselves, and bid out just the installation of the equipment.

RESULTS

The City decided to add a couple of other items to the project, including a new control panel and a new walkway. The City followed the recommendations of our Engineer, David Allen, and the costs for the project so far are as follows:

Engineering (David Allen)		
Design		$13,300
Construction		4,000
Control Panel		500
Demolition/Debris Hauling (Southwest Destructors)		10,700
Aeration Tanks & Transport		35,365
Installation (AJ Management and Southwest Destructors)		39,500
Sludge Hauling		10,000 (est.)
Walkway and Stairs (American Grating)		$16,800
Control Panel		26,245
Total	$	156,410

There could be some additional costs, but the project to date is largely complete and the plant is operating according to plans. The City has implemented a solution affordable to the taxpayers of Jonestown at below the estimated cost. Wastewater reserve funds were sufficient for the project while leaving enough funds for future major repairs. Wastewater rates were adjusted for the users with no complaints.